REMARKS

Applicant thanks the Examiner for the thorough consideration given the present application and for the indication that claims 9, 11, 14, and 16 contain allowable subject matter.

Applicant traverses the objection to the drawings, because the flow detector and fluid flow adjuster are included in the drawings. The flow detector includes, *inter alia*, vertical conical passage 21 and ball 22; *see page 6, lines 1-3.* The fluid flow adjuster 29 includes, *inter alia*, disk 30; *see page 6, lines 4-7, and page 8, line 17.* Because the parts forming flow detector and flow adjuster are included in the drawings, the flow detector and flow adjuster are shown in the drawings. Therefore, the objection under 37 C.F.R. §1.83(a) is incorrect and withdrawal of the objection is order.

The specification is amended for clarity. The statement that FIG. 1 is a bottom view of the structure illustrated in FIG. 2 is supported by the sectors of the circles intersecting line B-B of FIG. 1. These circle sectors correspond with the wall of body 2, which FIG. 2 indicates has a larger diameter than tube 4 and is found in FIG. 1 as the innermost circle of four concentric circles.

FIG. 5a is amended to indicate axis C-C. FIG. 5b is amended to indicate axis D-D. FIG. 6 is amended to change reference numeral 6 to reference numeral 30 and to add reference

numerals 29 (referred to in the specification on page 7, lines 18 and 19), 32, and cross-hatching.

Applicants disagree that the present title is not clearly indicative of the invention to which the claims are directed. The title, "Variable flow float flowmeter," aptly defines te claimed subject matter, particularly as the claims are now amended.

The amendments to claims 1 and 3-18 and the cancellation of claim 2 obviate the claim objections.

To expedite prosecution, independent claim 1 is amended to recite a variable flow float flowmeter comprising a fluid inlet including an adaptor, an upper fluid inlet body including a fluid inlet passage and a flow detector including a fluid circulation passage and a vertical conical passage including a sphere, a lower body arranged for enabling the fluid to exit through it, an adjuster for the fluid flow, and a fluid outlet passage, the upper fluid inlet body being fixed to the lower fluid outlet body, the upper body including a cast single piece assembly arranged so the inlet passage leads towards a flow measurement passage communicating with one end of the fluid circulation passage through its other end, the flow adjuster leading towards the outlet passage. As such, the flowmeter includes O-rings arranged in grooves in the periphery of the cylindrical surface of the knob, and on the internal peripheral surface of a skirt of the knob and the lower and upper parts of

the body including the inlet passage and the outlet passage, respectively, and a seal between the disk and the outlet passage in a larger diameter hole than the fluid outlet passage

The flowmeter of claim 1 is relatively inexpensive and simple to produce because it includes an upper body having a one-piece construction. This cast single piece assembly avoids complex arrangements of several pieces and thus prevents risks of leakage of the fluid outside the fluid distribution system. Emmons does not disclose or suggest an upper or a lower body including a cast single piece assembly in which the inlet passage leads towards a flow measurement passage that communicates with one end of the fluid circulation passage which communicates, through its other end, with the flow adjuster leading towards the outlet passage.

What could be assimilated to a fluid circulation passage is the passage 15 connecting the outlet of the measurement passage in the upper body with the inlet passage of the lower body in Emmons. Neither the inlet passage of the flowmeter, as admitted by the Examiner, nor this fluid circulation passage is included in the upper body of the invention disclosed in Emmons. The upper body of Emmons only includes a measurement passage which is connected to a head including a first adjuster 19 leading towards the atmosphere but not towards the outlet passage. The lower body of Emmons is connected to the measurement passage and includes a fluid circulation passage communicating directly to

the outlet passage and communicating with a second adjuster 20 leading backward to the measurement passage, but not towards the outlet passage.

Thus, in contrast to the subject matter recited in claim 1 that requires the adjuster to be located after the measurement passage in the circuit, Emmons describes a system in which a first adjuster adjusts the flow directed to the atmosphere at the end of the measurement passage, and a second adjuster adjusts the flow directed to the measurement passage or to the outlet passage. This has nothing to do with the structure of claim 1. The construction of the several passages disclosed by Emmons is much more complex than a cast single piece and does not enable the same aims to be achieved.

Furthermore, the Office Action mischaracterizes the Emmons float as being a ball. In fact, Emmons indicates float 18 includes lower projecting portion 21 and upper enlarged flaring portion 22, such that portion 21 acts as a pendulum. Passages 24 extend through portion 22. Such a structure cannot be considered a ball as claim 1 previously required. For clarity, the claims now indicate the ball is a sphere as clearly shown by FIGS. 2a and 2b, which are at right angles to each other. Thus, FIGS. 2a and 2b clearly indicate ball 22 is a sphere, since circular cross-sections of ball 22 are in views at right angles to each other. Applicant notes that the claimed sphere avoids possible problems of the Emmons float that may result in

scratching the measurement tube, leaving undesired particles inside the fluid distribution system.

Claim 1 of the present application is thus novel and unobvious in view of Emmons.

Because the secondary references do not cure the foregoing deficiencies of Emmons, claims 2-8, 10, 12, 13, 15, 17, and 18 are allowable.

In addition, the rejection of claims 12, 13, 15, and 17 as being obvious over Emmons and Stoll (U.S. 4,380,250) is obviated because these claims now depend from claim 3.

Stoll discloses a disk including a single continuous cut. The cut has a circular axis of symmetry and its width varies gradually. However, Stoll does not disclose the claim 3 requirement of a disk including holes with spacing between each other and arranged so that during fluid distribution, the whole diameter of at least one hole always directly faces the outlet passage, regardless of the position of the disk, to enable uninterrupted fluid distribution even during flow adjustment, wherein the disk and outlet passage are arranged to provide gradual adjustment of the flow, in response to turning of the disk, as a function of the progressive change in diameter of at least one of the holes and in the density of the holes facing the outlet passage. Claims 3 and 10-17 are thus new and unobvious in view Emmons and Stoll.

Claims 3 and 10 are patentable over Emmons and Cove (U.S. 4,360,040). Cove discloses a disk including holes with diameters and spacing between each other so that, during fluid distribution, at least part of the diameter of at least one hole is always facing the downstream holes. The holes of the Cove disk are large and are arranged to partially face the downstream holes most of the time. This disk does not allow uninterrupted fluid distribution with a progressive change.

Cove does not disclose or suggest the claim 3 requirement for a disk including holes with diameters and spacing between each other so that, during fluid distribution, the whole diameter of at least one hole always directly faces the outlet passage, regardless of the position of the disk, to enable fluid distribution without any risk of interruption, even during the flow adjustment, wherein the disk and outlet passage are arranged to provide gradual adjustment of the flow, in response to turning of the disk, as a function of the progressive change in the diameter of at least one of the hole(s) and in the density of the holes facing the outlet passage.

Claims 3 and 10 of the present application are thus new and unobvious in view of Emmons and Cove.

Claim 7 is patentable over Emmons and Whalen (U.S. 3,812,715). Whalen discloses a measurement tube fixed to adapters by metallization areas, including a graduated wall containing a hollow metal flow having a substantially

cylindrical shape. The measurement tube is not included in an upper body made of a cast single piece, and the float is not a sphere as claim 7 requires.

Whalen does not disclose or suggest a flowmeter comprising an upper body including a cast single-piece assembly, in which an inlet passage leads towards a flow measurement passage communicating with one end of a fluid circulation passage which communicates, through its other end, with a flow adjuster leading towards an outlet passage, wherein the measurement passage includes a transparent graduated wall.

Claim 7 is thus new and unobvious over Emmons in view of Whalen.

To provide Applicant with the protection to which he is deemed entitled, claims 19 and 20 are added. Claims 19 includes the subject matter of original claims 1 and 9, while claim 20 includes the subject matter of original claims 1, 11, and intervening claim 3. Since claims 9 and 11 are allowable, claims 20 and 21 are also allowable.

In view of the foregoing amendments and remarks, prompt allowance is respectfully requested.

To any extent necessary, Applicant hereby requests an extension of time in which to respond to the outstanding Office Action and hereby authorizes the Commissioner to charge any required fees not otherwise paid, including application

processing, extension, and extra claims fees, to Deposit Account No. 07-1337.

Respectfully submitted,

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